

Jeff Christian

PETROLEUM GEOLOGIST

Wichita, Kansas

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR **MURFIN DRILLING COMPANY**
 LEASE **ERICKSON "B" # 1-11**
 LOCATION **330' FNL & 400' FEL**

SECT **11** TWP **5 S** R **31 W**
 COUNTY **RAWLINS** STATE **KANSAS**

FIELD **ELNA**
 API **15-153-20919**

CONTRACTOR **COMPANY TOOLS** P.O. NO. **14**
 DRILLING STARTED **03/16/2013** COMPLETED **03/25/2013**
 MUD DISCAGED **2964'** MUD TYPE **CHEMICAL**
 DRILLING TIME (LEFT FROM) **3495'** TO **RTD**
 SAMPLES SAVED FROM **3495'** TO **RTD**
 SAMPLES EXAMINED FROM **3495'** TO **RTD**
 GEOLOGICAL SUPERVISION FROM **3500'** TO **RTD**

FORMATION NAME LOG DATE TIME TOP DATUM TOP SAMPLE

ANHYDRITE	2545'	(-275)	2545'	(-275)
TOPEKA	3628'	(-808)	3629'	(-809)
HEEBNER	3795'	(-976)	3797'	(-977)
LANSING	3844'	(-1024)	3844'	(-1024)
STARK	4012'	(-1192)	4013'	(-1193)
BKC	4065'	(-1248)	4064'	(-1248)
PAWNEE	4173'	(-1353)	4178'	(-1358)
FT. SCOTT	4246'	(-1426)	4247'	(-1427)
CHEROKEE	4257'	(-1437)	4257'	(-1437)
TOTAL DEPTH	4380'	(-1560)	4380'	(-1560)

ELEVATIONS
 KB **2820'**
 GL **2810'**

MEASUREMENTS FROM KB
 CASING RECORD
 CONDUCTOR NONE
 SURFACE **8.6/66 @ 227'**
 W/ 1/90 SX
 W/ 175 SX
 Production **3 1/2" @ 1364'**

Electrical Surveys
 PLOT NUMBER:
 DIL:
 CML/DCL:
 MEI:
 BHS:

DATE	7:00 AM DEPTH	REMARKS
3/16/13	MIRT	SPUD 8:00 pm
3/17/13	230'	WOC Drill Plug 10:00 am dev. 1/2 deg.
3/18/13	1685'	Drlg.
3/19/13	2835'	Drlg.
3/20/13	3480'	Drlg.
3/21/13	3880'	Short Trip Prior to DST # 1 dev. 1 deg.
3/22/13	3925'	TOH w/ DST # 2
3/23/13	4050'	DRLG
3/24/13	4268'	DRLG RTD 4380' @ 2:00 pm dev. 2 deg.
3/25/13	4830'	Finish Logging 1:00 am

Remarks

5 1/2" production casing set to further test the Cherokee formation.

Electric log measurements correlate about even to 1' high compared to rotary measurements.

Samples deposited at the Kansas Geological Survey.

Respectfully Submitted,
Jeff Christian
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